

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Appeals and Interferences

In re the Application of

Inventors: Chan Wah NG et al.

Appln No.: 10/561,194

Filed: December 16, 2005

For: MOBILE TERMINAL APPARATUS AND HANDOFF METHOD THEREOF

APPEAL BRIEF

On Appeal From Art Unit 2617  
Examiner Tangela Chambers  
Confirmation No. 3919

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#### I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the present application, Panasonic Corporation of Osaka, Japan.

#### II. RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences, or judicial proceedings known to Appellants, Appellants' legal representative, or the Assignee, that may be related to, directly affect or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

#### III. STATUS OF CLAIMS

Claims 1-9 have been presented for examination. Claims 7-9 have not been entered due to their submission after the final rejection of the claims. Claims 1-6 stand finally rejected and form the subject matter of the present appeal.

#### IV. STATUS OF AMENDMENTS

New claims 7-9 were filed after the Final Rejection dated July, 21, 2008, and have not been entered.

#### V. SUMMARY OF CLAIMED SUBJECT MATTER

An object of the claimed invention is to achieve smooth continuous packet switched communication sessions for a mobile terminal apparatus in transit (see substitute specification page 3, lines 22-26).

To achieve this or other objects of the invention, independent claim 1 defines a mobile terminal apparatus 100, 300 having a plurality of interfaces 101-1...101-M, 301-1...301-M, each interface 101, 301 being capable of, when an associated access mechanism 161, 162 thereof is in an active state, obtaining a connection to a network 150 using one of a home-address and a care-

of-address, the home-address being assigned to the interface 101, 301 in advance, the care-of-address being assigned to the interface 101, 301 while the interface 101, 301 is in a domain where the home-address is not available (see Figs. 1, 2, and 7 and substitute specification page 5, line 21, through page 6, line 1, page 8, lines 2-9, page 10, line 16, through page 11, line 7, and page 23, lines 15-17). An instructing section 104, 302 instructs a setup of a binding of a home-address of a first interface 101-a of the plurality of interfaces 101-1...101-M, 301-1...301-M and one of a home-address and a care-of-address of a second interface 101-b of the plurality of interfaces 101-1...101-M, 301-1...301-M, the first interface 101-a losing a connection obtained through a care-of-address of the first interface 101-a (see page 12, lines 7-11, page 14, line 14, through page 15, line 7, and page 23, line 25, through page 24, line 13). A setup section 102 sets up the binding (see page 15, lines 3-7 and 11-17, and page 24, lines 7-13).

To further achieve the above object or other objects of the invention, independent claim 6 defines a handoff method in a mobile terminal apparatus 100, 300 having a plurality of interfaces 101-1...101-M, 301-1...301-M, each interface 101, 301 being capable of, when an associated access mechanism 161, 162 thereof is in an active state, obtaining a connection to a network 150 using one of a home-address and a care-of-address, the home-address being assigned to the interface 101, 301 in advance, the care-of-address being assigned to the interface 101, 301 while the interface 101, 301 is in a domain where the home-address is not available (see Figs. 1-3, 7, and 8 and substitute specification page 5, line 21, through page 6, line 1, page 8, lines 2-9, page 10, line 16, through page 11, line 7, and page 23, lines 15-17). According to the method, a setup of a binding is instructed S5000, S6000 for a home-address of a first interface 101-a of the plurality of interfaces 101-1...101-M, 301-1...301-M and one of a home-address and a care-of-

address of a second interface 101-b of the plurality of interfaces 101-1...101-M, 301-1...301-M, the first interface 101-a losing a connection obtained through a care-of-address of the first interface 101-a (see page 12, lines 7-11, page 14, line 14, through page 15, line 7, and page 23, line 25, through page 24, line 13). Thereafter, the binding is set S8000 (see page 15, lines 3-7 and 11-17, and page 24, lines 7-13).

The references herein to the substitute specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.

## VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1 and 6 stand correctly rejected, under 35 USC §103(a), as being unpatentable over Lee et al. (US 6,535,493) in view of Dutta et al. (US 2004/0122976).

Whether claims 2 and 3 stand correctly rejected, under 35 USC §103(a), as being unpatentable over Lee in view of Dutta and Gwon (US 2003/0016655).

Whether claims 4 and 5 stand correctly rejected, under 35 USC §103(a), as being unpatentable over Lee in view of Dutta, Gwon, and Linder et al. (US 2002/0194385).

## VII. ARGUMENT

### A. Applicable Law

To establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *MPEP §2143.03, first sentence; In re Royka*, 490 F.2d 981, 984-985, 180 USPQ 580, 583 (CCPA 1974). Rejections on obviousness cannot be sustained by mere conclusory statements. Instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. See *KSR International v. Teleflex*

*Inc., U.S. Supreme Court No. 04-1350 (2007) In re Kahn, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006) and see MPEP §2143.01(I), first sentence of third paragraph.*

As stated in *KSR*, exemplary rationales that may support a conclusion of obviousness include:

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) "Obvious to try" - choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. See *MPEP § 2143*.

#### B. Rejections of Claims 1 and 6

Claim 1 defines a mobile terminal apparatus that binds a home address of a first network interface, which loses network connectivity, and one of a home address and a care-of address of a

second network interface. The claimed subject supports the ability of a mobile terminal to maintain communication with a network by temporarily borrowing a second network interface address when communication through the address of a first network interface is disrupted, such as when the mobile terminal is experiencing a base station handoff (see substitute specification page 15, line 26, through page 16, line 6).

The Final Rejection acknowledges that Lee does not disclose the present claimed subject matter of a mobile terminal apparatus that binds a home address of a first network interface, which loses network connectivity, and one of a home address and a care-of-address of a second network interface (see Final Rejection page 3, fifth paragraph, and page 5, lines 1-7).

To overcome this deficiency, the Final Rejection proposes that Dutta discloses this subject matter in Fig. 2A (upper right corner) through a crossover node 214a that updates its routing cache entry with the care-of address of a received message so as to replace an original downlink interface 228 with a new interface 226 pointing towards a base station 216a (see page 5, lines 7-11).

However, the Appellants observe that Dutta's crossover node 214a is a fixed, intermediate node disposed between a base station 216a and a gateway 212c (see Dutta Fig. 2A and paragraph [0036], lines 1-6). Dutta's fixed, intermediate node 214a is not the same as, or similar to, the claimed subject matter of a mobile terminal. And neither Dutta nor the Final Rejection identify a motivation for applying Dutta's teachings regarding intermediate node 214a to a mobile terminal, such as Dutta's mobile host 222b illustrated in Fig. 2A; instead, the Final Rejection cites Dutta's motivation for applying the teaching to a fixed, intermediate node (see Final Rejection page 5, lines 17-21, and Dutta paragraph [0011], in which the object of Dutta's invention is described).

The Final Rejection proposes that a skilled artisan would find motivation to modify Lee's system in light of Dutta's teachings so as to achieve integrated mobility management addressing both intra-domain and inter-domain mobility (see Final Rejection page 5, lines 17-21). However, Lee discloses that his system already has integrated mobility management addressing both intra-domain and inter-domain mobility (see Lee col. 2, lines 17-23, col. 2, line 51, through col. 3, line 4, and col. 11, lines 8-12). Thus, contrary to the position taken by the Final Rejection, a skilled artisan would not find motivation to modify Lee's system to achieve a capability it already possesses.

Moreover, Dutta's disclosure of replacing an original interface with a new interface is not the same as, or similar to, the present claimed subject matter of binding a home address of a first network interface with a home address or a care-of address of a second network interface. The Appellants' claimed subject matter supports communication through either the first network interface or the second network interface in accordance with the network connectivity status of each interface. Dutta's system replaces an original interface with a new interface such that use of the original interface is lost and only the new interface may provide network connectivity.

Thus, Dutta's disclosure of a crossover node 214a that updates its routing cache entry with the care-of address of a received message so as to replace an original downlink interface 228 with a new interface 226 pointing towards a base station 216a, rather than a base station 216b, does not support an ability for a mobile terminal to maintain communication with a network by temporarily borrowing a second network interface address when communication through the address of a first network interface is disrupted, as does the claimed subject matter. Instead,

Dutta's system supports an ability for intermediate node 214a to communicate with a base station 216a, via intermediate node 214b, when communication with base station 216b is lost.

In summary, the Final Rejection: (1) identifies no motivation for applying Dutta's teachings regarding a fixed node 214b, that is intermediate between a gateway 212c and base stations 216, 216a, and 216b, to a mobile terminal to achieve the claimed subject matter, (2) identifies a motivation for modifying Lee's system in light of Dutta's teachings so as to achieve a capability that Lee's system already possesses, and (3) fails to find all the limitations of Appellants' claim 1 within the cited references.

Accordingly, the Applicants respectfully submit that Lee and Dutta, considered individually or in combination, do not render obvious the subject matter defined by claim 1. Independent claim 6 similarly recites the above-mentioned subject matter distinguishing apparatus claim 1 from the applied references, but with respect to a method.

Therefore, reversal of the rejections applied to claims 1 and 6 is considered to be warranted.

#### C. Rejections of Dependent Claims 2-5

Dependent claims 15, 16, 19, and 20 incorporate the above-mentioned subject matter distinguishing their respective base claims from the applied references.

Therefore, reversal of the rejections applied to claim 22, 23, and 38 is similarly deemed to be warranted.

D. Conclusion

In view of the law and facts stated herein, it is respectfully submitted that all rejected claims define patentable subject matter. Therefore, reversal of all outstanding grounds of rejection is respectfully solicited.

Respectfully submitted,

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## VIII. CLAIMS APPENDIX

1. A mobile terminal apparatus comprising:

a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance, said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available;

an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and

a setup section that sets up the binding.

2. A mobile terminal apparatus according to claim 1, wherein said instructing section comprises:

a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;

a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

a deciding section that decides whether or not the selected second interface is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

3. A mobile terminal apparatus according to claim 1, wherein:

each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address; and

said instructing section comprises:

a searching section that, when the loss of the connection of said first interface is predicted by said first interface, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

a deciding section that decides whether or not said selected second interface is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

4. A mobile terminal apparatus according to claim 1, wherein said instructing section comprises:

a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;

a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

an activating section that activates an access mechanism associated with said selected second interface;

a deciding section that decides whether or not said selected second interface whose associated access mechanism is activated is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

5. A mobile terminal apparatus according to claim 1,  
wherein each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address; and

wherein said instructing section comprises:

a searching section that, when the loss of the connection of said first interface is predicted by said first interface, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

an activating section that activates an access mechanism associated with the selected second interface;

a deciding section that decides whether or not said selected second interface whose access mechanism is activated is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

6. A handoff method in a mobile terminal apparatus having a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance, said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available, the method comprising:

an instructing step for instructing a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and  
a setup step for setting up said binding.

## IX. EVIDENCE APPENDIX

There is no evidence submitted pursuant to 37 CFR §§1.130, 1.131, or 1.132 of this title or any other evidence entered by the examiner and relied upon by Appellant in the appeal.

## X. RELATED PROCEEDINGS APPENDIX

There are no decisions rendered by a court or the Board in any proceeding identified pursuant to 37 CFR §41.37(c)(1)(ii).